As stated in my original proposal, our first production meeting for RENT occurred on April 4th 2011. Director Paul Finocchiaro stated at this first production meeting that he wanted a gritty, industrial look to the production reminiscent of the urban New York environment where the play takes place. He felt that lighting could play a big part in creating the “rock concert” feel by having shafts of colored light coming from exposed lighting equipment to set the mood for each song or scene. Over the next few weeks the production team met weekly to collaborate on how the different design elements could achieve the goals that Finocchiaro was after. During one of these meetings I expressed interest in using six or eight followspots to help achieve a look reminiscent of rock concerts I had attended in the 1980’s. Followspots are bright shafts of light controlled by a stagehand that “follows” a performer as they move about on stage. This bright pool of light helps draw the audience’s attention to the desired performer. RENT has many group musical numbers intermixed with multiple soloists. I thought that followspots could help the audience know which performer is singing a solo. At our last production meeting of the Spring semester of 2011, scene designer John Paul presented a white model depicting what the scenery could look like for our production. It incorporated four onstage followspot towers where stagehands could stand twenty feet in the air and shine their light at the featured performer. Paul's white model depicted a unit set that would stay static throughout the performance. The space that Paul created was not specifically inside or outside. It would fall to the Costume and Lighting Design to assist the audience in providing clues to suggest the different locations called for in the script.
It was my plan to work on designing the lighting for this production over the summer. To design lighting for a show of this complexity I utilized computer visualization to “try out” ideas in a virtual 3d environment. My virtual lighting skills up to this point in my career had been self taught. This technology did not exist when I was in college. Through the generous support of the Nadine B. Andreas Grant I was able to receive computer visualization training and certification from Cast Software, makers of WYSIWYG Lighting Design Software. Armed with this newly honed skill I was able to create a 3d virtual version of Paul’s scenic design in a virtual Ted Paul Theatre.

Smith’s computer simulation of Paul’s scenic design for RENT

Now that I had an exact scale replica of Paul’s design in my computer simulation, I was ready to try out lighting concepts discussed in the production meetings. I added LED color changing lights to flood the stage in any color of light so that the mood could be changed for each song. I then added the followspots to the towers that Paul designed into the set. This is one of the first renderings I generated.
I liked the look of the stagehand controlled followspots so I added computerized LED moving lights mounted to the steel framework of the scenery to add further shafts of lights and enhance the concert like feel.

**Lighting Rendering incorporating set mounted LED lights**

After seeing the look of clean, textureless shafts of light, I decided to add a system of color changing lights that had gobos placed in the lights to add texture as another controllable element available in the lighting. This would add an extra layer of texture shooting through the haze.

**Lighting Rendering incorporating gobos for added texture**
I also added a system of nine High End intelligent lights to the lighting rig. These lights can be programmed to move in time with the music and add a dynamic quality to more upbeat songs. These lights can also be very utilitarian in their flexibility, allowing a designer to use each light for multiple tasks throughout the length of a performance.

On July 30th I traveled to Cedar Rapids IA to attend a performance of RENT at Theatre Cedar Rapids. That production used some of the conventions that our design team had discussed such as haze, exposed lighting, an industrial looking unit set, and a rock concert atmosphere. I got an extensive backstage tour from their Assistant Technical Director. That night’s performance had some moving light malfunctions that had gone unnoticed by the audience but was an ongoing frustration for the TCR technical staff. They did not have any training in moving lights repair and did not have enough time in between performances to ship the light to a qualified repair shop. This reinforced how fortunate I was to receive the Andreas grant to allow me to receive factory training and certification in moving light repair from High End Systems in Austin Texas.

Now that the lighting concepts for the show were all worked out on computer, the next step was to hang, cable, gell, and focus the physical lights in the theatre. To do this, the student electricians responsible for hanging the lights would need draftings showing the position of all of the lights. I used lighting software from CAST Lighting to prepare all the required drawings. On these drawings I needed to include information such as color, focus, as well as patching information so that the lighting console could send data to each intelligent light.
Computer Drafted light plot for RENT

A traditional drafted light plot would show a top view locating each piece of lighting equipment in the theatre. This method proved to be inadequate since the show was designed in three dimensional space, many of the lighting symbols were overlapping in a top view. I had to separately draft a front elevation showing the position of all the set mounted lights. There were also a large number of lights that were to be placed on the stage floor. The location of these lights had to be drawn on a separate floor plan view. Compared to a typical theatrical lighting design, RENT took three times the amount of draftings to adequately show the information necessary to hang such a complicated design.
Computer Drafted Front Elevation Showing Set Mounted Lighting for RENT

Computer Drafted Plan View Showing Floor Mounted Lighting for RENT
Besides all of the drafting necessary to show the position of all of the lighting fixtures in the show, it was also necessary to work out the data distribution and DMX addressing for each of the intelligent lights so that the computer light board could effectively communicate with each “smart light” and to allow complete control of each controllable parameter. I utilized a software program called Lightwrite to assist with this task. I was able to export data already entered into the virtual lighting design I had worked out earlier in the summer and import directly into Lightwrite. This additional paperwork was invaluable in individually addressing each moving light, ensuring that the correct data was sent to each fixture.

Lightwright file showing data distribution for RENT
No matter how much work has gone into a design, if the director asks for a change or an addition it is the job of a competent designer to make that change happen. After much of the lighting design draftings had been completed, Finocchiaro asked if the song “ Seasons of Love” could have a unique lighting look that would set it apart from the rest of the show. I did research into what this song looked like in the original Broadway production. Originally this song was done in a monochromatic lighting pallete with stark shafts of top light providing the key light with adequate fill light to illuminate the actors faces. I was able to go back to my computer simulation and add in a similar look to our version of RENT. Upon seeing the additional rendering for this song, Finocchiaro said that was exactly what he wanted. Computer simulation made this design addition happen with minimal extra work in the theatre.

**Lighting Rendering for “Categories of Love”**

RENT opened on September 29th in the Ted Paul Theatre to a sold out crowd. The show was an artistic success for the artistic team that collaborated on the show. The Nadine B. Andreas Grant gave me the additional training necessary to pull off this complicated lighting design. This show was a mammoth undertaking that will be seen by many theatre goers in the area, and will continue to reflect the high production value our audiences have come to expect and enjoy when they see a theatrical production on our campus.
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